BEFORE THE STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES
OFFICE OF ADMINISTRATIVE LAW

IN THE MATTER OF THE PETITION OF APPLIED WASTEWATER MANAGEMENT, INC. FOR APPROVAL OF AN INCREASE IN RATES FOR SERVICE	**BPU Docket No. WR03030222** **OAL Docket No. PUCRS 02351-03S**

DIRECT TESTIMONY AND EXHIBITS OF HOWARD J. WOODS, JR., P.E. ON BEHALF OF THE NEW JERSEY DIVISION OF THE RATEPAYER ADVOCATE

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APPLIED WASTEWATER MANAGEMENT, INC.
BPU Docket No. WR03030222
Direct Testimony of Howard J. Woods, Jr., P.E.

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I. STATEMENT OF QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Howard J. Woods, Jr. and my address is 138 Liberty Drive, Newtown, Pennsylvania 18940-1111.

Q. BY WHOM ARE YOU EMPLOYED?

A. I am an independent consultant and the Division of the Ratepayer Advocate has engaged me in this matter.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL QUALIFICATIONS.

A. I hold a Bachelors of Civil Engineering Degree from Villanova University (1977) and a Master of Civil Engineering Degree with a concentration in water resources engineering also from Villanova University (1985). I am a registered professional engineer in New Jersey, New York, Maryland, Pennsylvania and New Mexico. I am an active member of the American Society of Civil Engineers, the National Ground Water Association, the American Water Works Association, the Water Environment Federation and the International Water Association.

Q. HAVE YOU PROVIDED TESTIMONY IN MATTERS ASSOCIATED WITH WATER AND SEWER SERVICE AND RATES ON PRIOR OCCASIONS?

A. Yes. I have testified in numerous rate setting proceedings and quality of service evaluations in matters before the Public Utility Commissions in New Jersey, New York, Connecticut and Kentucky. In addition, I have provided expert opinions in generic hearings related to water resource planning and drought management in New Jersey and Delaware. These hearings were sponsored by the respective utility commissions in these jurisdictions.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. From October 1977 through October 1981, I worked with the U.S. Environmental Protection Agency's Region III Water Supply Branch. In this position I developed system surveillance programs, evaluated the sanitary integrity of existing water supply facilities, provided technical assistance to water suppliers and engineers in regard to water treatment and the construction, operation and maintenance of water supply facilities. I recommended treatment techniques and the addition of sanitary facilities to municipal and investor owned utilities, coordinated emergency responses to cases of water supply contamination and was individually responsible for the implementation of the Safe Drinking Water Act in a 14 county area of Pennsylvania.

From October 1981 through May 1983, I worked as a project engineer for the engineering firm of Johnson, Mirmiran and Thompson, P.A. of Silver Spring,

Maryland. While working for this firm I designed numerous water supply systems wastewater treatment and conveyance systems and storm drainage facilities. I investigated the suitability and condition of various existing water supply systems and developed comprehensive facility plans for a number of the firm's clients. In this position I functioned as a project engineer responsible for defining and carrying out engineering work necessary for the timely and accurate completion of design projects. As a client's representative, I also bid projects involving the construction of facilities using construction documents I prepared for the client. These were for new projects as well as for projects requiring the renovation of existing facilities.

From May 1983 through November 1984, I served as Director of Engineering for American Water Works Service Company's Eastern Division. In this position I directed the long-range planning and design functions of New York-American Water Company and New Jersey-American Water Company. I supervised the execution of engineering projects related to the design, construction, operation and maintenance of company water and sewer facilities. In this position, I was responsible for the successful completion of an annual construction budget of approximately $15 million and a facility maintenance budget of approximately $10 million. This work included the maintenance and renovation of wells in Burlington and Camden Counties and the construction of new wells in Atlantic and Warren Counties. I evaluated facilities, prepared or directed the preparation of engineering designs, pre-qualified bidders, solicited bids, and served as the Company's representative in managing construction and

maintenance projects. I had authority to review and execute change orders on construction projects when actual field conditions were found to differ from anticipated conditions.

From November 1984 through December 1985, I served as Manager of Operations for the Eastern Division of American Water Works Service Company. In this position I supervised all aspects of engineering, water quality, materials management and risk management for the Company's Eastern Division. This included the Company's operations in New York and New Jersey. I managed a $120 million maintenance and operations budget and a $20 million construction budget. I directed the procurement of engineering design services and construction services on approximately sixty major capital projects and hundreds of smaller maintenance and repair projects. During this period, I was responsible for the rehabilitation of the Company's Canoe Brook Well Field in Millburn, New Jersey. I also completed nearly $3 million in renovation work at Company wells in Burlington and Camden Counties.

From December 1985 through August of 1988, I served as System Director of Planning for American Water Works Service Company. In this position I directed the development of strategic and comprehensive plans for all American System companies located throughout the country through a staff of engineers and technical personnel working under my direction. I evaluated the suitability of existing source, treatment and distribution facilities, wastewater conveyance and treatment facilities and made long range projections concerning the need for new facilities or operational modifications to existing facilities.

In the next three assignments with American Water Works Company, I directed operations and maintenance budgets that averaged $150 million per year and capital budgets that ranged from $30 million to $120 million per year for the Company's operations in New Jersey, New York and Connecticut. Engineering designs were prepared under my direction. I directed the competitive bidding of capital and maintenance projects. The largest of these was the design and construction of the Delaware River Regional Water Treatment Plant; a $192 million treatment plant and pipeline system that now serves much of Burlington, Camden and Gloucester Counties.

From August 1988 through April 1989, I served as Regional Manager of Engineering for American Water Works Service Company's Eastern Region. In this position I developed engineering goals and objectives for each of the Company's operating systems in Connecticut, New York and New Jersey. I analyzed operating reports to determine the status of all phases of engineering, administration, planning, design and construction necessary to meet the Company's goals and objectives in providing safe, adequate and proper water supply service.

From April of 1989 to July 1993, I served as Regional Manager of Operational Services for American Water Works Service Company's Eastern Region. In this position I was responsible for the provision of administrative, engineering, loss control, resource conservation and water quality services required by the operating companies in the Eastern Region. In this position I directed water company operations to assure compliance with approved operating and maintenance budgets, capital construction programs, long range corporate and

comprehensive plans, risk exposure reduction, safety and loss control procedures, water conservation programs and water quality objectives. In this position I also served as Vice President of New Jersey-American Water Company, Connecticut-American Water Company and New York-American Water Company.

From July 1993 through May 1997, I served as Vice-President of New Jersey-American Water Company. In this position, I served as chief operations officer for the Company. I was responsible for all operations functions including production, distribution, maintenance services and commercial services. I directed a staff of 450 management and unionized employees. These responsibilities included the maintenance of over 150 wells located throughout New Jersey, several large surface water treatment facilities, nearly 100 distribution storage tanks and approximately 4,000 miles of water distribution mains. I was also responsible for the Company's sanitary sewer operations. These facilities were composed of several hundred miles of pipe and numerous pump stations. I planned and directed work required to maintain these facilities in peak operating performance. This work included electrical and mechanical maintenance associated with pumping equipment and controls.

In June of 1991, I was appointed by Governor Florio to serve as the investor-owned water supplier representative on the New Jersey Water Supply Advisory Council. The Council advises the New Jersey Department of Environmental Protection (formerly the New Jersey Department of Environmental Protection and Energy) on a wide range of water supply issues such as water quality, facility construction requirements, statewide water supply planning and

water supply management. Governor Whitman reappointed me to the Council 1994 and I served through mid 1997.

From May of 1997 through the July 2000, I directed the acquisition and business development activities of American Water Works Service Company and a joint venture operation of the Company known as AmericanAnglian Environmental Technologies. I directed the development of bids on operations and maintenance contracts to operate municipally owned water and wastewater systems. I reviewed contract documents and directed a staff of engineers and analysts in preparing responsive bids and proposals for prospective municipal clients. In 1999, my team returned the second best business development performance in the United States and we won the largest operations and maintenance contract awarded that year (Scranton Sewer Authority, Scranton, Pennsylvania). I also directed the operations of the joint venture. This business unit was the seventh largest private municipal water and wastewater contractor in the United States. I directed the maintenance and operations functions of over 175 contracts dedicated to the operation of municipal water and wastewater utilities and industrial and commercial clients.

Since July 2000, I have worked as an independent consultant. Representative clients include the New Jersey Division of the Ratepayer Advocate, the Delaware Public Advocate, Passaic Valley Water Commission, Consumers New Jersey Water Company, PricewaterhouseCoopers LLP, BOC Gases Inc., the Pittsburgh Water & Sewer Authority/U.S. Water L.L.C., Upper Dublin Township (PA) and the Elmira (NY) Water Board.

I directed and managed the procurement process leading to the sale of a municipal wastewater system in Southeastern Pennsylvania. The Upper Dublin Township Sanitary Sewer System sold for $20,000,000. This system serves approximately 8,000 connections and has annual revenues of $3,000,000. I advised the Township on alternative outsourcing and contracting approaches, reduced interim operating expenses by 30% by renegotiating the plant operations contract prior to the sale of the system.

I completed an energy management evaluation for the Elmira (NY) Water Board and provided operator training on energy management strategies. Recommendations from the study allowed the client to reduce energy expenses by 30% through a series of operational modifications.

I completed an energy management audit of the Pittsburgh Water and Sewer Authority and identified strategies for reducing power consumption. The results of this investigation provided the foundation for the Authority and its contract manager (U.S. Water L.L.C.) to develop and implement more effective maintenance and operations procedures to reduce energy costs.

I assisted the Banco Gubernamental de Fomento para Puerto Rico, Autoridad para el Financiamiento de la Infrastructura de Puerto Rico and PricewaterhouseCoopers in developing a new operating contract for the Puerto Rico Aqueduct and Sewer Authority (PRASA). The contract was developed, bid and awarded in less than six months, cutting the normal procurement time by nearly two-thirds. The new ten-year agreement with Ondeo will allow the

government of Puerto Rico to eliminate the annual operations subsidy while service is improved. The value of the contract is $300 million per year.

II. SCOPE AND PURPOSE OF TESTIMONY

Q. ARE YOU GENERALLY FAMILIAR WITH APPLIED WASTEWATER MANAGEMENT'S WATER AND SEWER SYSTEMS?

A. Yes, I am.

Q. MR. WOODS, PLEASE DESCRIBE YOUR AREA OF RESPONSIBILITY IN THIS MATTER.

A. I have been engaged by Division of the Ratepayer Advocate to review the operations that provide safe, adequate and proper service in the communities served by the Applied Wastewater Management. I have also been asked to review the capital improvements undertaken by the Company on its own and in cooperation with developers in the communities served by the Company.

III. SUMMARY OF FINDINGS AND CONCLUSIONS

Q. HAVE YOU REVIEWED THE APPLIED WASTEWATER MANAGEMENT'S FILING FOR A RATE ADJUSTMENT?

A. Yes, I have.

Q. WHAT DOES THE COMPANY'S FILING AND THEIR PRE-FILED TESTIMONY REQUEST?

A. The Company is requesting an adjustment to rates that will result in an overall increase of 43.92%, which is comprised of a 31% increase in rates for customers served by Community On-Site Water/Wastewater Systems (COWS) and a 94% increase for Homestead customers.[1] They claim this increase in necessary to recover fair and reasonable operating expenses and the cost of capital improvements to the system.

Q. DO YOU BELIEVE THAT THIS RATE INCREASE SHOULD BE GRANTED?

A. Only a portion of the requested increase should be approved at this time. Several of the construction projects in the Company's plans were not completed and placed in service by the cut-off date. Furthermore, in several instances where the Company was able to place new facilities in service on a timely basis, the Company completed construction at a cost less than the estimates available at the time the request for a rate adjustment was filed. Also, to the Company's credit, they have implemented several operating plans that have resulted in lower ongoing operating costs than those claimed in the filing. Rates should be based on the Company's actual cost experience rather than the projected expenses in these

[1] Prepared Direct Testimony of Mr. Alexander (Sandy) Maxwell; Applied Wastewater Management, Inc.; Hillsborough, NJ; March 2003; p. 4, lines 15 through 20.

instances. I will explain and support these adjustments in testimony that will follow.

Q. ARE THERE ANY OTHER AREAS IN WHICH ADJUSTMENTS SHOULD BE MADE IN THE COMPANY'S FILING?

A. Yes. A portion of the Company's capital plan includes the purchase of facilities from developers and a number of the contractually obligated payments were not made by June 30, 2003. Furthermore, with regard to the Beacon Hill project, the facilities are being purchased at cost levels that exceed the level of investment that can be supported by current rates. Generally, utilities seek to balance the risk of providing new facilities for developer required projects through the use of deposit/refund agreements in which the developer is required to advance funds for facility construction. In these agreements, the developer can expect to recover some portion of its capital advance when bona fide customers are ready and able to accept service from the utility. These agreements often limit the amount of developer refunds to 2.5 times the maximum revenue generated by the customers over the life of the agreement. In fact, this approach has been codified in the New Jersey Administrative Code at *N.J.A.C.* 14:3-8. The Beacon Hill agreement does not conform to this revenue test. Plant purchases and developer refunds requested in this case amount to $2,025,000[2] and this amount should be reduced to

[2] The Petition of Applied Wastewater Management for Approval of an Increase in Rates for Service; Applied Wastewater Management; Hillsborough, NJ; March 28, 2003; Exhibit P-2, Schedule 24, Lines 10 through 16.

$1,344,093 to reflect only those conforming payments made prior to June 30, 2003.

IV. ENGINEERING ISSUES

A. Capital Construction Program

Q. WHAT ARE THE PRINCIPAL CAPITAL INVESTMENTS CLAIMED IN THE COMPANY'S FILING?

A. The Company's capital construction program is made up of projects that can be categorized in three general areas: Routine Construction, Plant Purchases/Developer Refunds and Major Project. The Company claimed investments totaling $380,000 for Routine Construction, $2,025,000 for Plant Purchases/Developer Refunds and $3,074,000 for Major Projects. The total construction program for 2002 and 2003 amounts to $5,479,000.[3] The Company has made an adjustment to Utility Plant in Service equal to this full amount, resulting in a claim for Pro Forma Rate Base Utility Plant in Service of $18,223,952.[4]

[3] The Petition of Applied Wastewater Management for Approval of an Increase in Rates for Service; Applied Wastewater Management; Hillsborough, NJ; March 28, 2003; Exhibit P-2, Schedule 24.
[4] The Petition of Applied Wastewater Management for Approval of an Increase in Rates for Service; Applied Wastewater Management; Hillsborough, NJ; March 28, 2003; Exhibit P-2, Schedule 25, page 1 of 5.

Q. DID THE COMPANY COMPLETE AND PLACE IN SERVICE ALL ITEMS INCLUDED IN ITS CAPITAL PROGRAM?

A. No. The Company has provided a schedule showing the actual level of expenses recorded as of June 30, 2003 total $3,077,878.[5] This represents 56% of the Company's capital program.

Q. HAVE YOU REVIEWED THE MAJOR PROJECTS UNDERTAKEN BY THE COMPANY IN ITS CAPITAL PROGRAM?

A. Yes, I have.

Q. WOULD YOU TELL US ABOUT THE PROJECT CALLED "HOMESTEAD TREATMENT PLANT"?

A. Certainly. This is a major renovation of the treatment works serving the Homestead Sewer System. The estimated cost of the project is $1,803,000, which alone represents roughly one-third of the Company's proposed capital program. The scope of work for this project includes a replacement of the liner in Lagoon No.1, the construction of new filtration and chemical application equipment and this installation of new plant controls and monitoring equipment.

[5] Response to WWR-27, Update September 24, 2003.

Q. IN YOUR EVALUATION OF THIS PROJECT, DID YOU CONSIDER ANY ALTERNATIVES TO THE EFFORT UNDERTAKEN BY THE COMPANY?

A. Yes. I first considered the possibility that the Company could abandon the Homestead treatment works in favor of an interconnection with a regional wastewater treatment system.

Q. WOULD THIS PROVIDE A PRACTICAL SOLUTION TO THE TREATMENT AND COMPLIANCE PROBLEMS THAT PLAGUED THIS SYSTEM PRIOR TO THE RENOVATION PROJECT?

A. No, absolutely not. There are no nearby wastewater treatment entities capable of providing service at a cost competitive with the project undertaken by the Company. The closest wastewater systems to Homestead are Burlington Township and Florence Township. I contacted both of these systems to see if it would be feasible to connect and generally where such a connection would need to be made. In addition to the direct cost of the interconnection, both Townships would charge a per unit connection fee. These fees are charged by municipal wastewater systems to pay for expansion of their major plant facilities. I have included the impact of the connection fees in the analysis.

Q. WHAT WERE THE RESULTS OF YOUR ANALYSIS?

A. The abandonment of the Homestead treatment works would require the construction of a pump station, including a limited amount of peak flow

equalization storage, and a pipeline to interconnect with either Burlington Township or Florence Township. Since the liners in the Homestead lagoons were leaking prior to the renovation project, it would not have been appropriate to employ the lagoons in peak flow equalization in any way. Furthermore, since the lagoons are open to the atmosphere, rain collecting in the lagoons would ultimately be pumped away with the wastewater for treatment and this would only serve to increase the cost of regional treatment. The connection to Burlington Township would require a four and one-half mile long pipeline while the connection to Florence Township would be somewhat longer at five miles. Both Townships charge a connection fee that would be applied to the full number of units in Homestead at the time the connection were made. In the case of Florence Township, the fee is only $70 per unit while Burlington Township's connection fee is $1,800 per unit. The total cost of construction, including the connection fees is estimated at $2,000,000 for Florence Township and $3,500,000 for Burlington Township. Since these costs exceed the cost of the Company's plant renovation project, regionalization would not provide a lower cost solution and requires no further consideration.

Q. IN YOUR OPINION, IS THE HOMESTEAD TREATMENT PLANT PROJECT NECESSARY?

A. Yes. I reviewed the history of this facility in records available from the United States Environmental Protection Agency and the New Jersey Department of Environmental Protection. The facility has had a history of non-compliance with discharge permit limits. It is my opinion that either a new or substantially

renovated facility would be needed to ensure compliance with the Clean Water Act.

Q. IS THERE ANYTHING UNUSUAL ABOUT THE DISCHARGE LIMITS IMPOSED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION ON THE HOMESTEAD FACILITY?

A. The Homestead permit, NJPDES No. NJ0098663, is a strict permit allowing the Company to discharge treated wastewater to the Assiscunk Creek. The Assiscunk Creek is classified as an FW2-NT (C1) water.[6] This is a general surface water classification (FW2), not intended to support trout (NT), but it is a Category 1 (C1) water. The Category 1 designation is applied to waters requiring special protection largely for the purpose of implementing non-degradation standards. This level of protection is provided to protect the color, clarity, aesthetic value, scenic setting and other exceptional characteristics of the receiving stream. Typical public wastewater treatment facility discharge permits regulate items such as biochemical oxygen demand and total suspended solids. The Homestead permit establishes strict limits for these items and goes on to regulate the discharge of certain metals and organics. Although this goes beyond the norm generally seen in the industry, the permit is typical of those issued by the New Jersey Department of Environmental Protection and the Pennsylvania Department of Environmental Protection in the Crosswicks-Neshaminy

[6] New Jersey Surface Water Quality Standards; *N.J.A.C.* 7:9B-1.15(d), Table 2, page 78.

Watershed. As a result of the permit conditions, a treatment technique generally regarded as "tertiary" treatment incorporating filtration will be necessary.

Q. COULD THE COMPANY HAVE CHOSEN ANOTHER TREATMENT SYSTEM OR TECHNIQUE TO SATISFY THE TREATMENT OBJECTIVES ESTABLISHED BY THE DISCHARGE PERMIT?

A. Yes. There are other designs and other treatment systems that could provide the necessary level of treatment to maintain compliance with the discharge permit, but it is unlikely that any of these systems could have been provided for a cost below that incurred by the Company in completing this project. The design selected by the Company maximizes the use of the land area available for the lagoons and the existing structures on site. Any other design, even though it may be more compact, would require the construction of structures which do not already exist.

Q. IN YOUR OPINION, SHOULD THE COMPANY BE ALLOWED RATE BASE RECOGNITION FOR THIS PROJECT?

A. Yes.

[7] Response to WWR-27, Update September 24, 2003.
[8] *Ibid*.

Q. ARE YOU AWARE OF ANY MAJOR PROJECTS THAT WERE NOT COMPLETE AND IN SERVICE BY JUNE 30, 2003?

A. Yes. The "Disposal Beds at Mapleton," the "Sludge Thickener at Mapleton," and the "Other Sludge Thickeners" were not complete and in service by the cut-off date of June 30, 2003. No rate base treatment should be allowed for these projects at this time.

Q. WHAT IS THE ESTIMATED COST OF THESE PROJECTS?

A. The estimated cost of these three projects totals $650,000.[9]

Q. DOES THE COMPANY'S CAPITAL CONSTRUCTION PROGRAM INCLUDE PAYMENTS TO DEVELOPERS FOR THE CONSTRUCTION OF UTILITY PLANT FACILITIES?

A. Yes it does. The Company's filing included seven projects at a total estimated cost of $2,025,000 under the category of plant purchases/developer refunds. One of these projects, "Glen Meadows" required no refunds or payments to the developer within the time period considered by this rate adjustment application.[10]

Q. WERE ALL OF THE REFUNDS OR PURCHASES COMPLETED AS ANTICIPATED BY THE COMPANY'S FILING BY JUNE 30, 2003?

[9] The Petition of Applied Wastewater Management for Approval of an Increase in Rates for Service; Applied Wastewater Management; Hillsborough, NJ; March28, 2003; Exhibit P-2, Schedule 24, Lines 18 through 20.
[10] *Ibid*; lines 10 through 17.

A. No. No refunds were recorded for the "Beacon Hill," "Hawk Pointe," "Crossroads at Oldwick," and "Pottersville."

Q. HOW MUCH OF THE COMPANY'S PROJECTED CAPITAL EXPENDITURES WERE RELATED TO THESE PROJECTS.

A. The budget amounts for these projects totaled $722,000 and this amount should not be allowed in rate base at this time.[11]

Q. WHAT PAYMENTS DID THE COMPANY MAKE TO DEVELOPERS BY JUNE 30, 2003?

A. The Company made payments of $305,952 to Jefferson Village and $1,038,141 to Mapleton at Mansfield Farms.[12]

Q. HAVE YOU REVIEWED THE AGREEMENTS BETWEEN THE COMPANY AND THE DEVELOPERS OF THE JEFFERSON VILLAGE AND MAPLETON AT MANSFIELD FARMS PROJECTS?

A. Yes.

[11] *Ibid*; lines 11, 13, 14 and 16.
[12] Op.Cit. WWR-27.

Q. CAN YOU DESCRIBE THE KEY PROVISIONS OF THOSE AGREEMENTS?

A. Yes. The Jefferson Village agreement was executed on January 20, 2000 between the Company and Sunrise at Jefferson, L.L.C.[13] The agreement establishes a purchase price[14] of $863,000 for wastewater system facilities that include a 125,000 gallon per day wastewater treatment facility and a wastewater collection system[15] intended to serve 416 homes in a subdivision known as Jefferson Village.[16] The designer and builder of the wastewater treatment facility is Applied Water Management, Inc.,[17] an affiliate of the Company. The agreement defines the terms and conditions under which the title to the assets and all applicable permits will be transferred to the Company. Furthermore, the agreement indicates that the Company will be obligated to pay the seller a fixed price of $2,074.51 for each residence connected to the system.[18]

The agreement between K. Hovnanian at Mansfield I, L.L.C. and the Company is similar to the Jefferson Village agreement and it was executed on March 31, 1998.[19] This agreement contemplates the construction of wastewater collection and treatment facilities that will be purchased by the Company for the price of $1,397,500.[20] These facilities were intended to serve 821 single family

[13] Purchase Agreement between Applied Wastewater Management, Inc. and Sunrise at Jefferson, L.L.C. dated January 20, 2000; page 14.
[14] *Ibid*; §4.01; page 3.
[15] *Ibid*; §2.01; page 2.
[16] *Ibid*; Preamble; page 1.
[17] *Ibid*; §1.11; page 2.
[18] *Ibid*; §4.02(a); page 4.
[19] Wastewater Agreement between K. Hovnanian at Mansfield I, L.L.C. and Applied Wastewater Management, L.L.C. dated March 31, 1998; page 21.
[20] *Ibid*; §6.04; page 8.

homes and 97 "Mount Laurel" condominium units that were intended to be "reconfigured" as 68 supportive living units.[21] Payments from the Company to Hovnanian were to begin with the completion of the 472nd residence and continue at a rate of $2,957.67 for each additional residence connected.[22]

Neither agreement specifically relates the maximum amount of refunds due to the developer to the actual annual revenues to be generated by each bona fide customer connected to and served by these systems. Furthermore, neither agreement limits the time period under which the maximum amount of refunds could be made to the sellers.

Q. ARE YOU FAMILIAR WITH ANY GUIDELINES OR REGULATIONS CONCERNING THE AMOUNT OF REFUNDS TO BE PAID BY UTILITIES TO DEVELOPERS WHO CAUSE FACILITIES TO BE CONSTRUCTED ON BEHALF OF THOSE UTILITIES?

A. Yes. *N.J.A.C.* 14:3-8 provides suggested formulae for the extension of utility services. Where water and sewer services are concerned, a developer's deposit is to be returned in an amount equal to two and one-half times the estimated annual revenue for each bona fide customer connected to the system. The regulations also recommend a maximum limit on the life of deposit/refund agreements at 10 years.

[21] *Ibid*; Preamble; page 1.
[22] *Ibid*; §6.05(a); page 8.

Q. DO THE COMPANY'S DEVELOPER AGREEMENTS CONFORM TO THE GUIDELINES?

A. The Company has indicated, in response to RAR-E-38, agreements made since 2001 specifically limit repayments to a maximum of two and one-half times revenue. Since the Jefferson Village and K. Hovnanian at Mansfield I agreements are older, I have reviewed these to see if the terms and conditions apply.

Q. WHAT TARIFF APPLIES TO THE CUSTOMERS IN JEFFERSON VILLAGE AND MAPLETON AT MANSFIELD FARMS?

A. The customers in these systems are charged according to the Applied Wastewater Management, Inc. Tariff for Sewer Service at a rate of $226.00 per quarter.[23]

Q. WHAT IS THE ANNUAL AMOUNT OF REVENUE THAT WOULD BE GENERATED AT PRESENT RATES IN JEFFERSON VILLAGE AND MAPLETON?

A. According to the approved tariff, each customer would pay a flat rate of $226.00 per quarter or $904.00 per year.

[23] Applied Wastewater Management, Inc. Tariff for Sewer Service; Original Sheet No. 5; Effective March 28, 1996.

Q. DOES THE COMPANY'S AGREEMENT WITH SUNRISE AT JEFFERSON VILLAGE, L.L.C. CONFORM TO THE GUIDELINES IN *N.J.A.C.* 14:3-8?

A. Yes, it does, with the exception that the agreement does not appear to set a time limit for the connection related refunds due the developer. Otherwise, the agreed purchase price of $863,000 is less than 2.5 times annual revenue at present rates when build out is reached. At that point, 416 customers would be connected and 2.5 times revenue at present rates would amount to $940,160.

Q. DOES THE COMPANY'S AGREEMENT WITH K. HOVNANIAN AT MANSFIELD I, L.L.C. CONFORM TO THE GUIDELINES?

A. Yes, it does, with the exception that the agreement does not appear to set a time limit for the connection related refunds due the developer. Payments do not begin until the 472nd customer is connected and the Company only pays the unit price per customer for the connections made after the 472nd customer. In order to recover the full agreed to purchase price of $1,379,500, an additional 472 customers, for a total of 944, would need to be connected to the system. The developer properly carries the risk of non-completion of the development project. Considering the number of customers contemplated at build out (889), we can also see that 2.5 times revenue would amount to $2,009,140, an amount that is well in excess of the maximum refund obligation.

Q. HAVE YOU REVIEWED ANY OF THE OTHER DEVELOPER AGREEMENTS AND DO THESE AGREEMENTS CONFORM TO THE GUIDELINES?

A. Yes, I have reviewed other Company/developer agreements and it is my conclusion that the Beacon Hill agreement is non-conforming. This agreement obligates the Company to pay $596,032.42 at milestone points related to the permitting and construction of the wastewater facility and to refund $1,202,064.00 at a rate of $3,804.00 per connection.[24] The total amount due to be paid the developer is limited to $1,799,096.42. Connection related refunds are not required for the first 158 customers, but are due only on those connected after the 158th connection is made.[25] At present rates and the projected number of customers at build out (473 customers), payments and refunds for the facilities should be limited to no more than $1,068,980. Therefore, this agreement potentially obligates the Company to make excess payments of $730,116 which would not be supported by present rates. As of June 30, 2003, there were 247 customers on this system. At the contract unit rate per customer, the total refund obligation should amount to $338,556. In addition, the Company should have paid the execution fee ($1,000) and the payments due for the treatment facility ($596,032.42) for a total of $935,588.42. This is less than the limit on the payment amount calculated by applying the guidelines of *N.J.A.C.* 14:3-8, but it is quite near the upper limit.

[24] Op. Cit., K. Hovnanian June 17, 1999; §4.01 and §4.02; page 4.
[25] *Ibid*; §4.02; page 4.

Q. HOW SHOULD THE REFUNDS FOR BEACON HILL BE ADDRESSED IN THIS MATTER?

A. First, refunds were not made prior to June 30, 2003, so no rate base adjustment should be made for this project at this time. For rate setting purposes, payments to Beacon Hill should be capped at $1,068,980. To the extent that the Company actually makes payments in excess of this amount, rate base treatment should be denied on the excess payments.

Q. ARE THERE ANY OTHER PROJECTS IN THE COMPANY'S CAPITAL PROGRAM THAT INVOLVE EXTENSIONS OF SERVICE TO NEW CUSTOMERS?

A. The project known as "Homestead Sewers" is being constructed to service new customers.

Q. IS ANY PORTION OF THIS PROJECT BEING CONTRIBUTED BY THE HOMESTEAD DEVELOPER?

A. No. The Company has indicated that this project is being funded solely by the Company and they claim that revenues from new customers will support their investment in this project.[26]

[26] Response to RAR-E-40.

Q. HAVE YOU PREPARED A SCHEDULE SHOWING THE ADJUSTMENTS YOU RECOMMEND CONCERNING THE COMPANY'S AS-FILED CAPITAL CONSTRUCTION PROGRAM?

A. Yes. That schedule is designated HJW-1 and it shows the Company's request for recognition of capital expenditures should be reduced by $2,469,687 to $3,009,313.

B. Homestead Acquisition

Q. ARE YOU FAMILIAR WITH THE COMPANY'S ACQUISITION OF THE HOMESTEAD WASTEWATER SYSTEM?

A. Yes. I have reviewed the Board of Public Utilities' Order in Docket No. WM99020090 approving the accounting treatment of the acquisition and the Stock Purchase Agreement for Homestead Treatment Utility, Inc.[27]

Q. WHAT WAS THE STATUS OF THE HOMESTEAD WASTEWATER SYSTEM AT THE TIME OF THE CHANGE IN OWNERSHIP?

A. The Homestead Treatment Utility provided wastewater service to 850 customers in Mansfield Township.[28] The Homestead system was owned by Michael V. Laino, individually, Marie Quigley, Executrix of the Estate of Daniel Quigley and

[27] Response to RAR-A-14
[28] *Order Approving Merger, In the Matter of the Petition of Applied Wastewater Management, Inc. for Approval of Merger with Homestead Utility, Inc. and Other Relief*; Docket No. WM99020090; State of New Jersey Board of Public Utilities; Newark, NJ; May 13, 1999; page 1.

Homestead at Mansfield, Inc.[29] Prior to the change in ownership, the system had created a track record of non-compliance with various requirements of the Clean Water Act including monitoring and reporting as well as discharge quality violations. A review of the U.S. Environmental Protection Agency Permit Compliance System database[30] shows a consistent history of non-compliance under the prior ownership.

Q. WHAT WAS THE PURCHASE PRICE FOR THE HOMESTEAD TREATMENT UTILITY?

A. The Company paid $940,000 for the acquisition of 100% of the Homestead Treatment Utility's outstanding stock.[31] This was $311,857 in excess of Homestead's net book value and represents a premium of just under 50% of the value of the company.

[29] *Ibid*; Page 3.
[30] http://oaspub.epa.gov/enviro/pcs_det_reports.pcs_tst?npdesid=NJ0098663&npvalue=1&npvalue=2&npvalue=3&npvalue=4&npvalue=5&npvalue=6&rvalue=13&npvalue=7&npvalue=8&npvalue=10&npvalue=11&npvalue=12
[31] Annual Report of Applied Wastewater Management, Inc for the Year Ended December 31, 1999; Applied Wastewater Management, Inc.; Westfield, NJ; March 29, 2000; page 8.

Q. WHAT ADJUSTMENTS DID THE COMPANY MAKE TO ITS UTILITY PLANT IN SERVICE ACCOUNTS AS A RESULT OF THIS ACQUISITION?

A. In 1999, the Company made a $2,497,575 adjustment to Utility Plant in Service to reflect the Homestead acquisition.[32]

Q. HAVE YOU HAD ANY EXPERIENCE ASSESSING THE VALUE OF UTILITY SYSTEMS THAT ARE BEING BOUGHT OR SOLD?

A. Yes. I have evaluated numerous water and wastewater systems and developed bids for clients and employers to acquire these systems. Recently, I also assisted the Township of Upper Dublin, Montgomery County, Pennsylvania in valuing their wastewater system prior to its sale at auction.

Q. HOW DOES ONE TYPICALLY DERIVE THE SELLING PRICE OF A UTILITY SYSTEM?

A. The final sale price of a utility system is most often developed through a competitive bidding process or through arms-length negotiations between a suitably motivated buyer and seller. In the specific case of utility systems that will be operated under rate regulation, both the buyer and seller must be aware of regulatory policies and considerations that could affect the value of the system.

[32] Annual Report of Applied Wastewater Management, Inc for the Year Ended December 31, 1999; Applied Wastewater Management, Inc.; Westfield, NJ; March 29, 2000; page 15.

Q. HOW DOES RATE REGULATION AFFECT THE VALUE OF THE UTILITY SYSTEM?

A. In a rate regulated environment, the buyer must exercise care in developing a purchase price that can withstand the scrutiny of the regulatory process. The price must be consistent with the value of the assets being transferred and preferably supported by the revenues generated by the system given the buyer's cost of capital. That is, the sky is not the limit on establishing a purchase price simply because regulation will not permit transactions that place an unjustified burden on the ratepayers of the utility. Generally, the purchase price must be arrived at in a way that balances the needs and expectations of the buyer and seller without causing unjustified rate increases.

Q. IN ARRIVING AT A PURCHASE PRICE, WHAT ISSUES WOULD A BUYER CONSIDER?

A. A buyer would generally begin by assessing the current and near-term revenue stream resulting from utility operations. This would be the foundation of any analysis of the system's value. Typically, a buyer would consider current revenues generated by the existing number of customers under the utility's authorized tariff. A buyer would also consider the cost of operating the utility under the management systems put in place as a result of the acquisition. The difference between anticipated operating revenues and projected operating expenses would represent a cash flow available to support capital investments, including the

purchase price, in the system. Finally, the buyer would consider the value of the assets being sold and the anticipated remaining service life of those assets.

Q. HOW WOULD A BUYER'S ASSESSMENT OF KNOWN DEFICIENCIES AFFECT THE PURCHASE PRICE?

A. As the buyer becomes aware of system deficiencies requiring immediate or near term attention, an assessment of the possible actions required to address those deficiencies must be made. Some problems may be easily solved by implementing more effective and efficient business practices. Other problems may require capital investment and it is these issues that directly impact the purchase price. Essentially, every dollar that must be spent on a capital improvement to correct an existing deficiency is a dollar less available for the purchase price. In cases where the utility system is well maintained, requiring few improvements, a purchase price that meets the sellers expectations can be established without resulting in adverse rate impacts. However, in the case of troubled utility systems requiring many improvements, it is often very difficult to set a purchase price that meets the seller's needs, allows for the improvements to be made and protects the ratepayer from significant rate increases. In the latter case, a buyer would need to make a reasonable assessment of the possibility of gaining rate relief for near term improvements made after closing. This problem is often further complicated in troubled utilities by the fact that existing rates often are inadequate to fully recover the cost of operations, maintenance and capital before the acquisition.

Q. IN THE SPECIFIC CASE OF THE HOMESTEAD TREATMENT UTILITY, WHAT REVENUES SHOULD THE COMPANY HAVE CONSIDERED AT THE TIME OF ACQUISITION?

A. The Homestead Treatment Utility served 850 customers at a flat rate of $110.65 per quarter.[33] This would produce annual revenues of roughly $376,000. It would have been both reasonable and prudent for the Company to consider the possibility of growth in the near term. If the Company anticipated customer growth at 2% per year, two years after closing they could anticipate serving 885 customers with annual revenues of $392,000.

Q. HOW DO THESE REVENUES COMPARE TO THE COMPANY'S COST OF OPERATIONS?

A. For 1999, Applied Wastewater Management incurred an average cost per customer for total operations and maintenance expense of $463.43. In the following year, the average cost of total operations and maintenance expense dropped slightly to $460.60 per customer. If we assume that the Company anticipated this level of maintenance and operations expense for Homestead, we can see quite easily that then present revenues would not support the cost of operations, let alone a purchase price or any post closing improvements. At $460 per customer per year, the annual cost of operations would be $391,000 at closing, or roughly $15,000

[33] Homestead Treatment Utility, Tariff for Sewer Service Applicable in Mansfield Township, Burlington County, New Jersey; Homestead Utility Company; Columbus, NJ; Effective July 6, 1993; Original Sheet No. 11.

more than the anticipated annual revenue. Under such circumstances, a premium purchase price cannot be justified.

Q. YOU HAVE TESTIFIED THAT IT IS YOUR OPINION THAT THE "HOMESTEAD TREATMENT PLANT" PROJECT IS NECESSARY TO ACHIEVE AND MAINTAIN CLEAN WATER ACT COMPLIANCE. DO YOU BELIEVE THAT AT THE TIME OF THE HOMESTEAD ACQUISITION, THE NATURE AND SCOPE OF THIS PROJECT COULD HAVE BEEN ANTICIPATED?

A. A review of Homestead Treatment Utility performance compared to Clean Water Act requirements should have resulted in a conclusion that significant deficiencies existed at this facility. A physical inspection of the plant prior to the acquisition should have confirmed what could reasonably be determined from a review of operating and regulatory records. However, certain things could not have been know definitively given a normal and customary level of due diligence by the purchaser. For example, the actual condition of the lagoon liners and the aeration system could not have been determined without draining one or both lagoons. Given the likely expense of such an inspection and the potential disruption to the Homestead Treatment Utility's operations, a physical inspection of the liners would have been neither practical nor typical of standard due diligence. Absent a physical inspection, it would have been reasonable for the purchaser to inquire as to the age of the liner and aeration system and to review the seller's records of maintenance and repair for these critical items. The age of the liners alone should

have suggested a need for near-term replacement after the sale of the system. The Company actually made note of this condition and assessment in their testimony when Mr. Davies pointed out that "the large lagoon liners were almost 20 years old and close to the end of their useful life."[34] At the time the system was acquired, the full and complete scope of the treatment plant upgrade could not have been known, however, an order of magnitude assessment of the facility should have suggested that a project on the scale of the "Homestead Treatment Plant" would be needed within a few years of closing.

Q. GIVEN THE PROSPECT OF NEGATIVE OPERATING INCOME AND A LARGE CAPITAL EXPENSE FOR THE TREATMENT PLANT RENOVATION PROJECT, HOW WOULD YOU SET A VALUE FOR THE SYSTEM FOR RATE MAKING PURPOSES?

A. I would use the value of the assets as the starting point. I would reduce this value to reflect my assessment of the needs at the treatment works. Essentially, I would discount the value of any assets associated with the existing treatment works that would not have value or use in the renovated facility. This would generally include the value of assets in Accounts 331, 332, 340, and 350. These accounts have an aggregate value of $829,064 in the total utility plant in service adjustment made by the Company in 1999. For ratemaking purposes, this amount should be deducted from Utility Plant in Service as these assets have essentially been

[34] Prepared Direct Testimony of Tim Davies, Vice President Operations; Applied Wastewater Management, Inc.; Hillsborough, NJ; March 2003; p. 10, lines 24 and 25.

replaced by the "Homestead Treatment Plant" project. This approach would also be consistent with a valuation approach that should have recognized that the old treatment facility had little to no remaining service life at the time of the acquisition.

Q. WHAT IS YOUR OPINION CONCERNING THE PURCHASE PRICE FOR THE SYSTEM?

A. We must recognize that the final aspect of establishing a purchase price is the actual negotiation process between buyer and seller. In this case, the Company agreed to a premium price of $940,000, which was $311,857 over book value. Considering the negative cash flow and the need for major treatment improvements at the time of closing, I do not believe that any premium over book value is justified and I would set the maximum reasonable purchase price at $628,143.

C. Operating Revenues

Q. HAVE YOU REVIEWED THE METHODOLOGY USED BY THE COMPANY TO FORECAST SALES?

A. Yes. Essentially, the Company projected the number of customers it anticipated serving on June 30, 2003 and calculated sales based on the present and proposed rates for those customers. There was no need to project average wastewater flows on a per customer basis since all customers are billed at a flat rate.

Q. SHOULD THE CUSTOMER COUNT USED BY MR. PRETTYMAN BE UPDATED IN ANY WAY?

A. Yes. As noted in Mr. Prettyman's direct testimony, the forecast customer count should be updated to reflect the number of customers actually being billed by the Company.[35] Specifically, the number of equivalent dwelling units and the associated revenue derived from the Northern Burlington High School and Middle School and the Mansfield Township Elementary School should be included in the updated revenue projections for the Mapleton system.

D. Operating Expenses

Q. WHAT ARE THE PRINCIPAL OPERATING EXPENSES INCURRED IN OPERATING THE COMPANY?

A. Operations Labor accounts for roughly one-third of the Company's operating expenses. Since the Company has no employees, this expense represents direct charges billed by affiliates to the Company. In addition to direct labor expenses, 11.5% of the Company's annual operating expenses result from cost allocations from affiliates. These are labor and overhead allocations for management and support services not billed directly to the Company.[36] Taken together, these charges represent 44.3% of the Company's operating costs. In addition to these expenses, Production Power represents 14.2% of the Company's annual operating

[35] Direct Testimony of Mr. Gary S. Prettyman; Applied Wastewater Management, Inc; Hillsborough, NJ; March 2003; Page 11, lines 17-18.
[36] *Ibid*; Page 15, lines 18-23 and Page 16, lines 1-11.

costs and Residuals Disposal represents an additional 11.4% of the Company's costs.

Q. HOW DID THE COMPANY DERIVE ITS PRO FORMA LABOR EXPENSE?

A. The Company used actual labor charges for twelve months ending December 31, 2001 of $493,198 as the starting point in deriving pro forma labor.[37] They then calculated an average cost per customer and applied this average to the projected growth in the number of customers to arrive at an adjustment of $170,000. The total labor expense projected by the Company is $633,201 before further adjustments for SCADA related efficiencies.[38]

Q. DO YOU CONCUR WITH THIS METHODOLOGY AND THE RESULT OF THE CALCULATION?

A. No, I do not. It is not appropriate to conclude that labor charges are linearly related to the number of customers served by a utility. Certain functions, such as customer call center services, can exhibit a strong correlation between the number of customers served and the amount of effort required to provide proper service, but other functions will not have this relationship. Operating functions like sewer collection system maintenance would exhibit a strong relationship between the number of miles of collection mains and the hours required to properly maintain

[37] *Ibid*; Page 13, line 2.
[38] Op. Cit., The Petition; Exhibit P-2, Schedule 7.

the system. Certain improved facilities, like the renovated Homestead Treatment Plant, should require less attention to assure compliance so one would expect labor charges to decline in cases where new or renovated facilities have been put in service. Finally, I would anticipate that a growing system would generally show increased efficiencies and economies of scale as additional customers are serviced by a stable work force.

Q. HAS THE COMPANY PROVIDED INFORMATION SHOWING THE ACTUAL LEVEL OF LABOR CHARGES?

A. In response to RAR-E-15, the Company presented a comparison of the accrued labor charges and actual labor charges, the later including an overhead multiplier, for 2001 and 2002. It is noteworthy that the actual expenses exceed the accrual in these years. They have not provided information that would facilitate any year-over-year comparisons of the number of person hours charged to operating and maintaining the systems.

Q. WHAT CAN YOU CONCLUDE FROM THE INFORMATION PROVIDED?

A. The data for 2001 and 2002 show that the Company's operations are in fact benefiting from some economy of scale as new customers are added. The unit cost per customer is not static as the Company's analysis and pro forma forecast shows. Schedule HJW-2 shows a comparison of these two years using the actual labor

charges and the number of customers served at year end. From this, we can see that the unit cost of labor has actually declined by 10.9%.

Q. WOULD YOU EXPECT THIS TREND TO CONTINUE?

A. I would expect the Company's labor costs to exhibit greater economies of scale, but two years do not provide sufficient data to define a trend.

Q. HOW THEN WOULD YOU PROJECT PRO FORMA LABOR EXPENSES?

A. The base labor costs should be set at the average actual cost for 2001 and 2002. This is $538,283, as shown on Schedule HJW-2. The Company has identified a specific and measurable adjustment related to the installation of SCADA equipment. They indicate that SCADA will produce labor savings of $58,980 and this savings should be accounted for in arriving at pro forma labor.[39] Subtracting this from the average base cost produces a pro forma labor expense of $479,303. This is a reduction of $124,919 from the pro forma labor expense claimed by the Company.

Q. HAVE YOU REVIEWED THE COMPANY'S ESTIMATE OF PRO FORMA POWER EXPENSE?

A. Yes. The Company has projected power expense based on the average cost of power for its water and sewer customers. They calculated a unit cost per customer

[39] *Ibid*; Exhibit P-2, Schedule 7.

based on actual power expenses for twelve months ending June 30, 2002 and the average number of customers at that time.[40] The resulting unit cost of $90.83 was multiplied by a pro forma number of customers of 2,899 to yield a base cost of $263,316. The Company the added allowances for addition costs at the renovated Homestead facility, which includes additional treatment related power costs ($20,000) and additional costs related to the reuse line at Homestead ($4,000).[41] The total pro forma power cost claimed by the Company is $287,316.[42]

Q. DO YOU CONCUR WITH THE METHODOLOGY AND THE RESULT OF THE CALCULATION?

A. No. I believe some adjustments are in order. First, since the Company claims that pro forma power expense includes both water and sewer customers, I reviewed the Annual BPU reports filed for 2000, 2001 and 2002 to independently check the calculations shown in the response to RAR-A-37. Since the year end reports do not include mid-year data, a direct comparison with the twelve month ending June 30, 2002 calculations was not possible. However, average costs based on the total power expenses and number of customers at year end can be developed and these are presented in Schedule HJW-3. The Company's calculations appear to account for both water and sewer power costs but may have inadvertently excluded the number of water customers. As a result, the average power cost for three years is $73.19 per customer. Applying this average to the pro forma number of customers

[40] Response to RAR-A-37.
[41] *Ibid*.
[42] Op. Cit., The Petition; Exhibit P-2, Schedule 8.

(2,910) yields a base power cost of $212,995. Since there are new facilities being placed in service at Homestead, an allowance must be made for power consumption not reflected in prior costs. In response to RAR-E-35, the Company provided an estimate of additional power costs at Homestead. The forecast of $11,636 is reasonable and should be included in the pro forma costs. The response to RAR-A-37 also shows an additional power expense associated with Homestead reuse. Since the reuse line was not constructed, this allowance ($4,000) should not be part of the pro forma power expense. The total pro forma power expense should be set at $224,631. This is a reduction of $62,685 from the pro forma power expense claimed by the Company.

Q. HAVE YOU REVIEWED THE COMPANY'S ESTIMATE OF PRO FORMA CHEMICAL EXPENSE?

A. Yes. The Company has projected chemical expenses based on the average cost of chemicals for its water and sewer customers. They calculated a unit cost per customer based on actual chemical expenses for twelve months ending June 30, 2002 and the average number of customers at that time.[43] The resulting unit cost of $51.40 was multiplied by a pro forma number of customers of 2,899 to yield a base cost of $149,009. The Company then added allowances for additional costs of a coagulant ("PAC") ($60,000) and recognized reductions in costs associated with lower sodium hypochlorite prices in Homestead ($52,047) and the

[43] Response to RAR-A-37.

discontinuance of the use of alum ($22,500).[44] The total pro forma chemical cost claimed by the Company is $134,462.[45]

Q. DO YOU CONCUR WITH THE METHODOLOGY AND THE RESULT OF THE CALCULATION?

A. No. First, since the Company claims that pro forma chemical expense includes both water and sewer customers, I reviewed the Annual BPU reports filed for 2000, 2001 and 2002 to independently check the calculations shown in the response to RAR-A-37. Since the year end reports do not include mid-year data, a direct comparison with the twelve month ending June 30, 2002 calculations was not possible. However, average costs based on the total water and sewer chemical expenses and number of water and sewer customers at year end can be developed and these are presented in Schedule HJW-4. The Company's calculations appear to account for both water and sewer chemical costs but may have inadvertently excluded the number of water customers. As a result, the average chemical cost for three years is $47.04 per customer. Applying this average to the pro forma number of customers (2,910) yields a base chemical cost of $136,875. From this base amount, the additional adjustments made for changes in sodium hypochlorite pricing, the discontinuance of alum use and the start of PAC use should be made. The resulting total pro forma chemical expense should be set at $122,328. This is a reduction of $12,134 from the expense level requested by the Company.

[44] *Ibid*.
[45] Op. Cit., The Petition; Exhibit P-2, Schedule 9.

Q. HAVE YOU REVIEWED THE COMPANY'S PRO FORMA RESIDUAL DISPOSAL CALCULATIONS?

A. Yes. The Company has calculated pro forma Residual Disposal in a manner consisted with the methods used to develop pro forma Power and Chemical costs. An average cost for the total number of customers was developed based on expenses experienced through June 30, 2002 of $158,877. This produced a unit cost of $72.61.[46] The Company then multiplied this unit cost by the pro forma number of customers of 2,899 to yield a base cost of $210,496. Adjustments were made to reflect the anticipated benefit of the fixed sludge thickener to be installed at Mapleton and the mobile thickeners to be used at other facilities. This reduced the expense to $102,996. The Company then added an allowance for the periodic removal of sludge from the Homestead lagoons.[47] The net pro forma Residual Disposal expense is $118,375.[48]

Q. DO YOU AGREE WITH THE METHODOLOGY USED TO DEVELOP PRO FORMA RESIDUAL DISPOSAL EXPENSE AND THE RESULT?

A. No. As in the cases of pro forma Power Expense and pro forma Chemical Expense, the Company is relying on only one year's actual expenses and it also appears as though their calculations ignore the water customer count. In the case of Residual Disposal, it may actually be appropriate to ignore the water customer count, but for consistency, I've chosen to include these customers in my analysis. The reliance

[46] Response to RAR-A-37.
[47] *Ibid*.
[48] Op. Cit., The Petition; Exhibit P-2, Schedule 9.

on a single year's expenses in projecting pro forma Residual Disposal Expense, however, seems to highlight some significant issues. A review of actual annual expenses for residual disposal for 2000 through 2002 shows a dramatic and steady increase in costs. For twelve months ending December 31, 2000, the Company incurred expenses of $21,851 for residual disposal and this increased to $52,711 for twelve months ending December 31, 2001.[49] The Company's pro forma calculations were based on twelve months ending June 30, 2002. By then, residuals disposal costs had risen to $158,877. The upward spiral continued through the end of 2002 when the twelve month cost for residual disposal climbed to $247,035.[50] The Company's records also show that for twelve months ending June 30, 2003, residual disposal expenses had increased yet again to $341,278.[51] It is my belief that these costs are being impacted by the periodic removal and disposal of sludge required at Homestead and the extraordinary expenses resulting for the hauling and disposal of wastewater at Mapleton. The sludge disposal costs at Homestead will be routine expenses and in some way should be accounted for in pro forma Residual Disposal. The costs at Mapleton should be short lived and result from the failure of the effluent disposal bed. These costs can be characterized as a "damage" resulting from the premature failure of the disposal bed that necessitates the construction of new disposal beds at this location.

[49] Op. Cit.; RAR-A-37.
[50] Response to RAR-A-32; Updated August 12, 2003.
[51] *Ibid*.

Q. HAVE YOU ATTEMPTED TO DEVELOP A PRO FORMA RESIDUAL DISPOSAL ESTIMATE?

A. Yes. The calculation is shown on Schedule HJW-5. I did not attempt to average costs over the last three years as I did with Power and Chemical expenses. However, I did make an adjustment to the actual expenses for twelve months ending June 30, 2002 to remove the expenses associate with the removal of sludge at Homestead ($41,136).[52] I then computed the average number of total customers, including both water and sewer accounts and arrived at a unit cost per customer of $43.89. I then multiplied this unit cost by the pro forma number of customers (2,910) to arrive at a base annual cost of $127,730. This base cost should be adjusted to account for the Mapleton sludge thickener and mobile sludge thickener improvements. In addition, an allowance for the amortization of the sludge removal costs at Homestead should be made. The resulting pro forma Residual Disposal amount is $35,609, representing a reduction of $82,766 from the pro forma level of expense requested by the Company.

Q. DOES THIS COMPLETE YOUR TESTIMONY AT THIS TIME?

A. Yes, it does.

[52] Response to WWR-19.

Schedule HJW-1			
Item	**Total Amount as Filed By Petitioner**	**RPA Proposed Adjustment**	**Final Recognized Expenditure**
Routine Construction			
Tools & Equipment	$ 100,000	$ 61,893	$ 161,893
Membranes	$ 30,000	$ (28,753)	$ 1,247
Health & Safety	$ 250,000	$ (190,097)	$ 59,903
Plant Purchases and Developer Refunds			
Jefferson	$ 286,000	$ 19,952	$ 305,952
Beacon Hill	$ 342,000	$ (342,000)	$ -
Mapleton at Mansfield Farms	$ 1,017,000	$ 21,141	$ 1,038,141
Hawk Pointe	$ 70,000	$ (70,000)	$ -
Crossroads at Oldwick	$ 210,000	$ (210,000)	$ -
Glen Meadows	$ -	$ -	$ -
Pottersville	$ 100,000	$ (100,000)	$ -
Major Projects			
Disposal Beds at Mapleton	$ 350,000	$ (350,000)	$ -
Sludge Thickener at Mapleton	$ 150,000	$ (150,000)	$ -
Other Sludge Thickeners	$ 150,000	$ (150,000)	$ -
Homestead Sewers	$ 400,000	$ (149,914)	$ 250,086
Homestead Treatment Plant Upgrade	$ 1,803,000	$ (824,024)	$ 978,976
Fawn Run Filters	$ 32,000	$ 712	$ 32,712
Water Treatment Upgrades at Country Oaks	$ 15,000	$ -	$ 15,000
SCADA Projects	$ 174,000	$ (8,597)	$ 165,403
TOTAL CONSTRUCTION	$ 5,479,000	$(2,469,687)	$ 3,009,313

Schedule HJW-2

THE PETITI0N OF APPLIED WASTEWATER MANAGEMENT, INC. FOR APPROVAL OF AN INCREASE IN ITS RATES FOR SERVICE **))) BPU Docket No. WR03030222**

Year Ending December 31	Actual Direct Labor Expenses With Overhead	Total Customers	Unit Cost Per Customer	Change in Unit Cost
2001	$ 493,198	2,011	$ 245.25	-
2002	$ 583,367	2,669	$ 218.57	**-10.9%**

Average Direct Cost	$ 538,283
SCADA Adjustment	$ (58,980)
Pro Forma Labor	**$ 479,303**

Schedule HJW-3

THE PETITI0N OF APPLIED WASTEWATER MANAGEMENT, INC. FOR APPROVAL OF AN INCREASE IN ITS RATES FOR SERVICE))) **BPU Docket No. WR03030222**

Twelve Months Ended	Purchased Power Cost	Customers at Year End	Average Cost Per Customer	Reference
12/31/2002	$ 212,227	2,886	$ 73.54	
12/31/2001	$ 159,476	2,251	$ 70.85	
12/31/2000	$ 129,943	1,728	$ 75.20	
Average			$ 73.19	
Pro Forma Customers			2,910	(RAR-A-30)
Base Power Cost			$ 212,995	
Additional Homestead Costs			$ 11,636	(RAR-E-35)
Pro Forma Power Expense			**$ 224,631**	

Schedule HJW-4

THE PETITI0N OF APPLIED WASTEWATER MANAGEMENT, INC. FOR APPROVAL OF AN INCREASE IN ITS RATES FOR SERVICE **))) BPU Docket No. WR03030222**

Twelve Months Ended	Chemical Cost	Customers at Year End	Average Cost Per Customer	Reference
12/31/02	$ 109,423	2,886	$ 37.92	
12/31/01	$ 121,345	2,251	$ 53.91	
12/31/00	$ 85,166	1,728	$ 49.29	
Average			$ 47.04	
Pro Forma Customers			2,910	(RAR-A-30)
Base Chemical Cost			$ 136,875	
Homestead sodium hypochlorite price adjustment			$ (52,047)	(RAR-A-37)
Discontinue alum			$ (22,500)	(RAR-A-37)
Begin use of PAC			$ 60,000	(RAR-A-37)
Pro Forma Chemical Expense			**$ 122,328**	

Schedule HJW-5

THE PETITI0N OF APPLIED WASTEWATER MANAGEMENT, INC. FOR APPROVAL OF AN INCREASE IN ITS RATES FOR SERVICE))) **BPU Docket No. WR03030222**

Twelve Months Ended	Residuals Disposal Cost	Customers	Average Cost Per Customer	Reference
06/30/02	$ 158,877	2,569	$ 61.86	
Homestead Sludge Removal Cost	$ (46,136)			(WWR-19)
Adjusted 6/30/02	$ 112,741	2,569	$ 43.89	
Pro Forma Customers			2,910	(RAR-A-30)
Base Residuals Disposal Cost			$ 127,730	
Mapleton sludge thickener adjustment			$ (75,000)	(RAR-A-37)
Mobile thickener adjustment			$ (32,500)	(RAR-A-37)
Homestead Sludge Removal Amortization			$ 15,379	(RAR-A-37)
Pro Forma Residual Disposal Expense			**$ 35,609**	